Promising Practices to Prevent Adolescent Suicide: What We Can Learn from New Jersey

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EXECUTIVE SUMMARY

New Jersey has had the lowest state-level adolescent suicide rate for more than a decade. During the past 20 years, New Jersey has implemented a wide variety of policies and programs identified in the professional literature as important in addressing teen suicide. Collectively, they appear to have played a major role in reducing the rate of adolescent suicide to the lowest in the nation.

For example, laws restricting the access of guns to minors have been in place in New Jersey for over 20 years. New Jersey has also had a number of non-regulatory interventions statewide for a similar time frame. These interventions include psychiatric screening centers in every county that include crisis hotlines that are staffed 24 hours a day, seven days a week; the Princeton Center for Leadership Training Program which empowers teens by building problem solving and coping skills; and a suicide awareness curriculum in a large number of schools.

There is also an unusually high degree of collaboration among the large number of state and local organizations involved in the effort to assist at-risk youth. For example, the New Jersey Departments of Health and Senior Services, Education, and Mental Health Services are working closely with faculty from the University of Medicine and Dentistry of New Jersey and Rutgers University, coordinators of the local traumatic loss coalitions, and parents of teens who completed suicide to address this issue. In addition to the interventions mentioned above, New Jersey has undertaken other important strategies such as gatekeeper training, peer helper programs, postvention crisis interventions, media education, and primary care physician education. Many of these efforts are statewide and address the underlying mental health issues that impact on adolescent suicide attempts. Most importantly, New Jersey's suicide prevention programs are linked with professional mental health resources in the community.

In addition to an in-depth examination of New Jersey's policies and practices targeting teen suicide, a literature review of effective suicide prevention strategies nationwide is included. This review highlights documented interventions that have shown the most promise for school programs, communities, and health care partners. Hopefully this review will provide public health administrators with ideas of policies and programs that can be considered for assisting troubled adolescents in their communities and state

BACKGROUND

The Federal Maternal and Child Health Bureau (MCHB) administers the Title V program, a federal program devoted to improving the health of children and mothers. Each state receives funds from MCHB annually to support activities to meet the goals of Title V. Through the block grant application process, by which funds are allocated, each state describes its program structure and specific activities to accomplish the Title V goals.

Since the mid-1990's block grant applications must also include indicators of how well states are accomplishing their goals to improve the health of mothers and children. MCHB requires that all states report on a core set of performance and outcome measures. In addition, individual states select state performance and outcome measures by which to assess their progress in areas of particular concern to that state. States are given instructions regarding measurement of each performance or outcome measure. There is some latitude, however, in the reporting of these data in order to avoid costly and/or time-consuming efforts to produce reports that to a great extent replicate others being prepared by the state for other purposes.

The Title V Information System (TVIS) was developed by MCHB to compile, among other data, the states' reports for the national performance and outcome indicators as well as statenegotiated indicators. These data are available on the World Wide Web at https://performance.hrsa.gov/mchb/mchreports/index.asp and, when definitions are consistent, allow examination of individual state performance and comparison of performance across states. Data are available for 1998 through 2001 for most states and indicators while some states report data from as early as 1996 and/or as recent as 2002.

MCHB recently looked at the accumulated data on Performance Measure #16: "the rate (per 100,000) of suicide deaths among youths aged 15 through 19" for a group of states with the largest populations and identified New Jersey as the state with the lowest teen suicide rate over the past decade.¹

The Child Health Program at the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill was asked to look more closely at the experience of New Jersey to determine what was and is happening that might contribute to their notable performance related to the reduction of adolescent suicide in the hope that New Jersey's experience could benefit other states that are still working to meet their adolescent suicide goals. Staff at the Sheps Center used multiple methods to collect information for the study including a more detailed analysis of data for the indicator, a literature search to discover interventions that have been proposed and/or evaluated for their effectiveness, and a visit to New Jersey to interview key informants.

REVIEW OF THE LITERATURE

Although a number of articles were reviewed, this summary of the literature draws heavily from two reviews of the literature done by Madelyn Gould and colleagues at Columbia University and the Institute of Medicine (IOM)'s book on *Reducing Suicide: A National Imperative*.

¹ State vital records are the recommended source of data for this indicator. (USDHHD/MCHB, 2000)

Suicide, A Leading Cause of Death for Adolescents (Age 15-19) in the United States

Table 1 shows how suicide ranks as a leading cause of death for various sex, race, and ethnic groups for 15 to 19 year olds in the U.S. for the year 2001 using the most recent Centers for Disease Control and Prevention (CDC) Web-based Injury Statistics Query and Reporting System (WISQARS) data available. (NCIPC, accessed 3/22/04) Suicide is the third leading cause of death overall. It is the second leading cause of death for Whites and American Indian/Alaskan Natives and the third leading cause of death for Blacks and Hispanics. The suicide rankings for males follow the same pattern as seen for combined sexes. The pattern is slightly different for females. For females, suicide is the fourth leading cause of death overall. It is the second leading cause of death for American Indian/Alaskan Natives, the third leading cause of death for Whites, the fourth leading cause of death for Hispanics, and the fifth leading cause of death for Blacks.

Table 1
Suicide: A Leading Cause of Death for Adolescents Age 15-19
Rank by Sex, Race, and Hispanic Origin
UNITED STATES 2001

	Total	White	Black	American Indian/AK Native	Hispanic
Total	3 rd	2 nd	3 rd	2 nd	3 rd
Male	3 rd	2 nd	3 rd	2 nd	3 rd
Female	4 th	3 rd	5 th	2 nd	4 th

Data Downloaded from WISQARS on 3/22/04

Risk and Protective Factors

There are many *risk factors* that have been shown to be related to adolescent suicide in the literature although their independent effect cannot always be demonstrated. Risk factors are grouped here into personal characteristics, family characteristics, adverse life circumstances, and socioenvironmental and contextual factors as was done by Gould and colleagues. (Gould et al., 2003) Personal characteristics include:

- psychopathology, which includes psychiatric conditions such as depressive disorders (most prevalent) and substance abuse (especially among older adolescent males);
- history of a prior suicide attempt (one of the strongest predictors of a completed suicide);
- cognitive and personality factors, including hopelessness (which may be due to its relationship with depression) and poor interpersonal problem-solving ability;
- homosexual orientation, although the association has been shown to be reduced when depression, alcohol abuse, family history of attempts, and victimization are controlled; and

• biological factors, primarily related to abnormalities in serotonin function. (Gould et al., 2003)

Family characteristics include:

- family history of suicidal behavior;
- higher rates of parental psychopathology, particularly depression and substance abuse (may not be a factor when the youth's psychopathology is controlled);
- coming from nonintact families (the association decreases when parental psychopathology is controlled); and
- impaired parent-child relationships (the relationship has been shown to no longer exist when youth psychopathology is controlled). (Gould et al., 2003)

Adverse life circumstances include:

- stressful life events, such as interpersonal losses (romantic difficulties are most common for older adolescents), legal or disciplinary problems, and bullying;
- childhood physical abuse (even after controlling for other risk factors); and
- sexual abuse (effect greatly reduced after controlling for potential confounding factors). (Gould et al., 2003)

Finally, socioenvironmental and contextual factors include:

- difficulties in school, neither working nor being in school, and not going to college; and
- impact of the media supporting the notion of suicide contagion. (Gould et al., 2003)

There is little evidence of an association between socioeconomic status (SES) and suicide. (Gould et al., 2003)

It can be seen that youth psychopathology is a very important risk factor that, in many cases, mitigates the effect of the other risk factors. In material published on the *Healthy People 2010* objectives it was reported that in a given year one in five children and adolescents between 9 and 17 years of age have a diagnosable mental disorder that can lead to school failure, alcohol or illicit drug use, violence, or suicide. Of these children and adolescents, 20 percent have a diagnosable disorder; 9-13 percent have a serious emotional disturbance with substantial functional impairment; and 5-9 percent have a serious emotional disturbance with extreme functional impairment. (USDHHS, 2000)

Although the understanding of suicide risk factors among youth is highly developed when compared to what is known about other age groups, few data are available to specifically discriminate those who will try (or have tried) to kill themselves from those with similar problems who are not suicidal or who have suicidal ideas but do not act. (URMC, 2001, accessed March 31, 2003)

Several *protective factors* have also been identified. As might be expected, most of these are the antithesis of the risk factors. They include:

- family cohesion; (Gould et al., 2003)
- religiosity; (Gould et al., 2003)
- resiliency, self esteem, direction, mission, determination, perseverance, optimism, and empathy; (Goldsmith et al., 2002)
- coping and problem solving skills, insight, and intellectual competence; (Goldsmith et al., 2002) and

• social support and close relationships, availability of caring adult, and participation and bond with school. (Goldsmith et al., 2002)

Suicide Prevention Interventions

Youth suicide prevention strategies are grouped into three domains as was done by Gould and colleagues—school, community, and health care system. (Gould et al., 2003)

School-Based Suicide Prevention Programs:

The underlying rationale of **school-based suicide awareness curricula** is based on findings from Kalafat and others that teenagers are more likely to turn to peers than to adults in dealing with suicidal thoughts, and that a large proportion of teens know a suicidal peer yet they do not respond appropriately. While several controlled studies by Kalafat and others have reported modest increases in knowledge, attitudes, and help-seeking behaviors, others have reported no benefits or detrimental effects. In light of these findings, efforts have now shifted toward programs that emphasize the following alternative school-based strategies. (Gould et al., 2003)

Based on the premise that some adolescents have poor problem-solving, coping, and cognitive skills, **skills training programs** emphasize the development of these skills. Although several evaluations have shown promising results, additional research is needed to refine this type of intervention. (Gould et al., 2003)

A few studies that examined the clinical efficacy of **school-based screening** programs have shown promising results related to identifying teens at risk for suicide. In the few studies that examined the efficacy of these programs, the sensitivity of the screening instruments ranged from 83 to 100 percent and the specificity ranged from 51 to 76 percent; therefore, although there were few false negatives, there were many false positives. This promising strategy also has some problems associated with it. Since suicide risk is not a constant and the urge comes and goes over time, multiple screenings are necessary. In addition, school-wide screening programs have been reported to be unacceptable to high school principals although few have personal experience with this type of program. Finally, the success of the program ultimately depends on effective referral for treatment. (Gould et al., 2003)

Gatekeeper training involves training school personnel to identify students at risk of suicide, determine their level of risk, and make appropriate referrals. It is based on the premise that suicidal youth are under-identified at schools, and, with the appropriate knowledge, this could be corrected. Research on its effectiveness is limited but encouraging. (Gould et al., 2003)

Peer helper programs are based on the premise that suicidal youth are more likely to confide in a peer than an adult. The roles peers play vary by program and empirical evaluations are limited. Even though this approach is widely used, there is little evidence documenting the efficacy or safety of peer helpers. (Gould et al., 2003)

Postvention or crisis intervention programs have been developed on the premise that a timely response to a suicide is likely to reduce subsequent suicide attempts and completed suicides in

fellow students. Here again, there is little research on the efficacy of these programs. (Gould et al., 2003)

Community-Based Prevention Programs:

Crisis centers and hotlines were developed to provide timely services outside of usual office hours to persons at risk for suicide. Unfortunately there is little evidence of their efficacy in serving teenagers. (Gould et al., 2003)

Since the use of firearms is the most common method for committing suicide nationally, it is felt that **restriction of firearms** may reduce suicides. Literature on the effect of restricting firearms on suicide has been mixed with some studies showing an effect and others showing none. In addition, a comparison of states that did and did not pass the 1994 Brady Bill that imposes a delay on the purchase of handguns showed no impact except for elderly males. For youth, a less controversial approach may be parent education about the means of restricting the availability of firearms to high-risk youth; however, one study found that parents of depressed adolescents were frequently noncompliant. There is some evidence that method substitution exists but the other methods used are usually less lethal. (Gould et al., 2003)

Given the lack of evidence in the literature of the effectiveness of media campaigns (Goldsmith et al., 2002) and the substantial evidence for suicide contagion (Gould et al., 2003; Goldsmith et al., 2002), a recommended suicide strategy involves **education of the media** (reporters, editors, film and television producers, etc.) about their role in appropriately producing media stories to reduce this harm.

Health Care-Based Prevention Programs:

There is evidence of the need for **training pediatricians and other primary care physicians** in the U.S. regarding suicide risk and prevention. Among 600 pediatricians and family practitioners in North Carolina who prescribed a Selective Serotonin Re-uptake Inhibitor (SSRI) antidepressant for a child or adolescent patient, only 8 percent felt they had received adequate training in the treatment of childhood depression and only 16 percent indicated they felt comfortable in treating children with depression. In addition, although many suicidal young people between 15 and 34 years of age sought medical care in the month before their suicidal behavior, fewer than half of the physicians surveyed reported that they routinely screened for suicidal risk. A study from Australia found that a 1-day training session for primary care physicians can significantly increase their identification of suicidal patients. (Gould et al., 2003)

There is little evidence in the literature of **treatment programs** that have been systematically evaluated and shown to have an impact on reducing suicidal ideation and behavior in children and adolescents, mainly because suicidal adolescents are usually excluded from studies of these programs. Procedures for the acute care treatment for suicidal adolescents were published by the American Academy of Child and Adolescent Psychiatry in 2001, but they are largely based on common sense approaches and expert clinician consensus. In addition, no-suicide contracts, which are commonly negotiated at the start of treatment, have not been empirically evaluated. (Gould et al., 2003)

The effectiveness of **inpatient care or partial hospitalization** in reducing rates of suicide ideation, non-lethal attempts, or completed suicides among adolescents has not been shown in the literature. **Outpatient treatment** has also been shown to not be effective because the low rates of compliance for adolescents makes these programs difficult to implement. (Gould et al., 2003)

Very few randomized controlled trials of **psychotherapy** have included adolescents in their samples. Although cognitive-behavioral therapy has been successfully used to treat adolescents with depression, no studies have been published on its use with suicide attempters. (Gould et al., 2003)

Until recently, there have been no studies of **psychopharmacological interventions** targeted at adolescents, although the rate of prescribing antidepressants to teenagers is extremely high and almost certainly includes adolescents who have attempted suicide. (Gould et al., 2003) Using prescription data from a large pharmacy benefit management organization, national suicide mortality files from CDC, regional geographic characteristics from the Census Bureau, and the geographic distribution of physicians using the Area Resource File, a cross-sectional study by Olfson and colleagues showed an inverse relationship between an increase in regional antidepressant medication treatment and the regional rates of suicide when data from 1990 were compared to 2000. Significant inverse trends were seen for older adolescents (age 15-19) and males but not for younger adolescents (age 10-14) and females. Although the study has some limitations, it is a first step in looking at the relationship between antidepressant use and adolescent suicide. (Olfson et al., 2003)

Lessons Learned by the Systematic Review of Suicide Prevention Programs Nationally:

Using the snowball sampling technique, O'Carroll and colleagues at CDC contacted suicide prevention experts in the U.S. and Canada. These individuals were asked to identify and describe suicide prevention programs for adolescents and young adults that they felt were effective based on their experience and assessment. Once the results were compiled, representatives of the identified programs were contacted and asked to expand the descriptions of their programs and to identify other programs they felt were exemplary. Representatives from the second wave of programs were contacted and asked to describe their programs. The list was further supplemented by contacting program representatives who participated in a national meeting of the American Association of Suicidology and by soliciting program contacts through their newsletter, *Newslink*. These programs were then categorized as follows: school gatekeeper training, community gatekeeper training, general suicide education, screening programs, peer support programs, crisis centers and hotlines, restriction of access to lethal means, and intervention after suicide. After doing this categorization, an expert group at CDC reviewed the list to identify recurrent themes across the various categories and make suggestions for future research. The following were among the findings:

• Links between suicide prevention programs and existing community resources are frequently inadequate.

- Some potentially successful strategies (i.e., restricting access to firearms and drugs and peer programs) are applied infrequently yet other less proven approaches (school-based education) are applied commonly.
- Many programs with potential for reducing suicide among adolescents and young adults (i.e., alcohol and drug-abuse treatment programs or programs to help provide services to runaways, pregnant teenagers, and/or high school dropouts) are not considered or evaluated as suicide prevention programs.
- The effectiveness of suicide prevention programs has not been systematically evaluated. (O'Carroll et al., 1994)

Barriers to Effective Interventions:

The IOM Report, *Reducing Suicide: A National Perspective*, identified a number of barriers to effective treatment and intervention including stigma and discrimination, financial barriers, mental health system barriers, managed care barriers, clinician barriers, and patient barriers.

The **stigma** of mental illness deters patients from seeking treatment. If they seek it, adolescents and certain ethnic minorities are less likely to complete treatment. Stigma of mental illness is also a barrier to insurance coverage and adds to housing and employment discrimination. Stigma may deter people from disclosing suicidal thoughts to their physician and family members may conceal problems for fear of blame. (Goldsmith et al., 2002)

There is evidence that the use of mental health services falls as the costs rise. In addition, there are insurance restrictions on mental health coverage. Legislative efforts are needed to remove some of the **financial barriers**. (Goldsmith et al., 2002)

There are several barriers related to the **mental health care system**. Mental health services are fragmented, especially if co-occurring conditions are involved such as drug abuse. Linkages between specialty mental health care and primary care, or emergency room care, or substance abuse care are weak. Specifically for adolescents, many school-based programs are not linked with mental health or substance abuse care. Linkages between inpatient and outpatient care are also missing. Successful modes of care involve wrap-around services with multi-system treatment for adolescents with severe emotional problems. There is a lack of availability of "state-of-the-art" programs and a lack of any services in rural areas. In addition, there are problems with adapting programs for new settings. (Goldsmith et al., 2002)

Primary care settings have become critical to the detection of depression and alcohol disorders. Seventy-five percent of those seeking help for depression would rather stay in the primary care setting. Screening in the primary care setting is inadequate, only 30-50 percent of adults with diagnosable depression are accurately diagnosed in the primary care setting. Only 58 percent of a random sample of 3375 primary care clinicians directly questioned patients about suicide during a routine depression evaluation even though suicidal thought should be queried. Family physicians (65%) and general internists (52%) were more likely to ask direct questions about suicide than obstetricians (48%). Even if diagnosed, only a minority of patients receive adequate treatment for depression mainly due to a lack of provider knowledge and time with the patient. Substance abuse disorders are second to mood disorders as the most common risk for suicide and

are an especially important risk factor for young adults. In recent surveys, 40 percent of primary care physicians did not perform routine screening for substance abuse reportedly due to lack of time or fears of spoiling the relationship with the patient. Thirty-four (34) to 38 percent of persons who are suicide victims visited a primary care provider one month prior to the event. This is even more common for adults less than age 35. This suggests that patients are motivated to seek help but are reluctant to bring up suicide, yet they usually tell their physician if asked. Since suicide is a rare event in the primary care provider's practice (1 suicide every 3-5 years), they have little incentive to assess asymptomatic patients. (Goldsmith et al., 2002)

Suicidal patients are frequently seen in the **emergency department** (ED). The barriers to care in this setting include: covert symptoms that are not recognized, lack of assessment guidelines, and lack of training of ED staff. Once diagnosed, it is important that patients get into treatment promptly. Suicide attempters are at risk for re-attempt or completed suicide, but they often do not receive follow-up care. Nearly half of all adolescents who attempted suicide and were seen in the ED did not receive subsequent care after their ED visit. (Goldsmith et al., 2002) In addition, stigma, denial, and avoidance on the part of the adolescent may be reasons why the diagnosis of the problem is missed in the ED.

A significant percent of suicide completers had made recent contact with a **specialty mental health care** provider either in the community or hospital. Problems here are similar to those in the primary care setting including failure to assess for suicide risk. An additional barrier to treatment of patients of racial, ethnic, and cultural minorities is the substantial underrepresentation of these groups among providers. (Goldsmith et al., 2002)

Managed care programs now cover almost 72 percent of Americans with health insurance and there is an emphasis on providing mental health treatment as part of primary care. This is of particular benefit for minorities and older persons who are less likely to go for specialty care. However, the quality of care might not be as good, there could be a denial of needed care, and under-treatment can occur. Managed care has lowered the cost of mental health services but may have lowered access and quality too, and the impact of these reductions on suicide has been largely unstudied. It is recommended that quality care/utilization management guidelines for effective response to and treatment of individuals at risk for suicide be developed by managed care organizations and health insurance plans. (Goldsmith et al., 2002)

For the **clinician** an overarching **barrier** is the lack of assessment and treatment guidelines. Suicide assessment tools are infrequently used by practicing psychologists, psychiatrists, and clinical social workers because they do not find the current scales (i.e., Hopelessness Scale and Suicide Intent Scale) to be very useful. In a survey of 600 patients, 69 percent indicated that they were misdiagnosed and frequently had to consult four physicians before a correct diagnosis was made. Across all settings, only about 22 percent of suicide victims communicate their intent to physicians. There are no clinical guidelines for the treatment of those who attempt suicide. This is probably due to the lack of power and rigor in research designs for suicide attempt treatments. Psychological autopsy studies have found a large percentage of suicide victims with depression were not receiving adequate treatment. Substance abuse is also often under-treated in suicidal patients. (Goldsmith et al., 2002)

Major **patient barriers** to treatment are stigma, cost, and fragmentation of services which have been previously discussed. Fear of being hospitalized, lack of medication adherence, and lack of spontaneous reporting by the patient are additional barriers. Barriers for the adolescent (also previously discussed) are low access to care (especially for those who have dropped out of school and are unemployed), low help seeking behavior, low utilization, problems with clinician detection of suicidality, and problems with referral and adherence to care. Only nine percent of teachers and 1/3 of high school counselors thought they could recognize a student at risk for suicide. (Goldsmith et al., 2002)

Summary of the Literature Review

For suicide in general and adolescent suicide in particular, there is little well documented information on risk factors that have an independent effect on the event or on effective prevention interventions. There are three risk factors that have been documented to have a major effect independently of other factors and include psychopathology, including depression and substance abuse; childhood physical abuse; and history of a prior attempt. Interventions that show documented promise in the schools are awareness curricula; problem-solving, coping, and cognitive skills training; screening programs; and gatekeeper training. Within the community, firearms restrictions and media training show the most promise. For the health care community, physician training in the detection of suicide risk and treatment of depression using SSRI antidepressants is needed. A number of the interventions already discussed will work toward removing the barriers that prevent adolescents from seeking the suicide prevention services they need. Stigma, cost, and fragmentation of services are not being addressed by the preventive strategies described in the literature and need to be considered in order to have a comprehensive approach to this problem.

Although O'Carroll and colleagues' work at CDC was completed in 1994, after review of more recent articles on adolescent suicide, the following recommendations from their work are still valid:

- Ensure that suicide prevention programs are linked as closely as possible with professional mental health resources in the community.
- Avoid reliance on one prevention strategy.
- Incorporate promising, but underused strategies (e.g., restricting access to lethal means) into current programs where possible.
- Incorporate evaluation efforts into suicide prevention programs. (O'Carroll et al., 1994)

TRENDS IN ADOLESCENT SUICIDE IN THE UNITED STATES²

In 2001, the national suicide rate for 15-19 year olds was 8.0 per 100,000. (NCIPC, accessed 3/22/04) Although not high, when suicide attempts and suicidal ideation are taken into account,

- differences in definition and how ambiguous cases are classified,
- differences in training and background for coroners and medical examiners,
- differences in the extent to which cases are investigated, and
- differences in quality of data management. (Goldsmith et al., 2002)

² There are a few problems with suicide data that should be noted. Suicide rates and methods only capture data on completed suicides. In addition, data can vary for the following reasons:

the magnitude of the problem increases. Since 1993, CDC has conducted the Youth Risk Behavior Survey (YRBS) every two years. This is a school-based survey of a representative sample of high school students in grades 9-12 throughout the country. Within this survey there is information on suicide attempts and ideation. By self-report in the 2001 survey, 19.0 percent of high school students seriously considered attempting suicide, 14.8 percent made a specific plan for suicide, 8.8 percent had attempted suicide at least once in the 12 months preceding the survey, and 2.6 percent made a suicide attempt that had to be treated by a doctor or nurse. (Grunbaum et. al., 2002)

Table 2
Adolescent Suicide Mortality Rates for 15-19 Year Olds (per 100,000)
by Race and Hispanic Origin
Using CDC WISQARS Mortality Data (1991-2001)
UNITED STATES

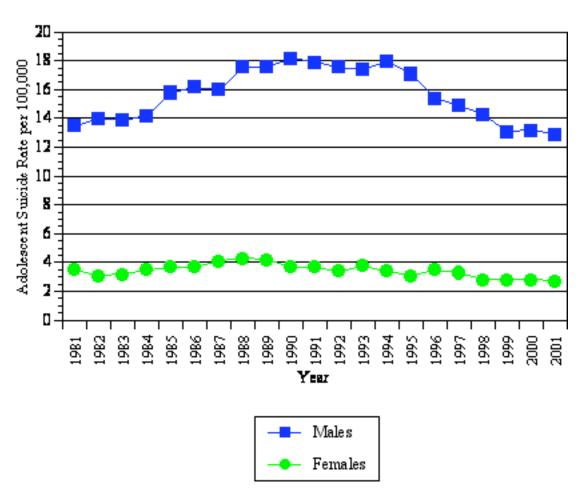
Year	Total	White	Black	American Indian/AK Native	Hispanic Origin
1991	11.0	11.8	6.9	22.8	7.7
1992	10.7	11.1	8.4	18.8	8.1
1993	10.8	11.4	7.9	15.7	8.9
1994	10.9	11.2	9.5	22.3	8.5
1995	10.3	10.9	8.0	12.4	8.4
1996	9.6	10.2	6.6	24.6	7.9
1997	9.3	9.8	7.0	18.4	7.2
1998	8.8	9.2	6.2	20.0	6.1
1999	8.0	8.5	5.8	19.2	5.7
2000	8.0	8.5	5.5	15.5	5.6
2001	8.0	8.6	4.3	18.0	5.2

Data Downloaded from WISQARS on 3/22/04

Table 2 summarizes adolescent suicide rates for the U.S. by race and Hispanic origin using WISQARS data. (NCIPC, accessed 3/22/04) It should be noted that WISQARS data uses International Classification of Diseases (ICD)-9 codes (E950-E959) for 1991-98 and ICD-10 codes (X60-X84, Y87.0) beginning in 1999. Although ICD-10 uses a completely different

coding system than ICD-9, it has been determined that the comparability ratios for overall intentional self-harm (suicide) are very close to 1.0 and thus the revision does not substantially effect the rates and they can be compared over these two time periods. (Anderson, et al., 2001) Overall there has been a 27 percent reduction in the adolescent suicide rate between 1991 and 2001 (11.0 in 1991 to 8.0 in 2001). The rates for Whites decreased 28 percent between 1991 and 2000 (11.8 in 1991 to 8.5 in 2000) and went up slightly to 8.6 in 2001. Black rates went from a high of 9.5/100,000 in 1994 to 4.3/100,000 in 2001, a 55 percent reduction. American Indian/Alaskan Native rates fluctuated, but since the high in 1996 of 24.6/100,000, they dropped to 15.5 in 2000 (37% reduction) and then rose to 18.0/100,000 in 2001 (16% increase). Finally, Hispanic rates went from a high of 8.9/100,000 in 1993 to 5.2/100,000 in 2001, a 42 percent reduction. (NCIPC, accessed 3/22/04) The adolescent suicide rates have also shown some consistency over time when comparing race and ethnicity with American Indian/Alaskan Natives having the highest rates and Blacks the lowest rates. The rates for Whites and Hispanics fall in between these two groups. Although Whites have a higher suicide rate than Blacks, the gap is narrowing. In 2001, the national suicide rate for American Indian/Alaskan Natives was 18.0. followed by Whites (8.6), Hispanics (5.2), and Blacks (4.3). (NCIPC, accessed 3/22/04)

Figure 1
Adolescent Suicide Mortality Rates for 15-19 Year Olds (per 100,000) By Sex
Using CDC WISQARS Mortality Data (1981-2001)
UNITED STATES



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Historically, suicide rates have been higher for males than females. After nearly a threefold increase in the adolescent male suicide rate between 1964 and 1988, the consistent increase ceased and the rate has been declining since the mid-1990s. (Gould et al., 2003) Figure 1 shows the adolescent suicide rates for the U. S. by sex from 1981 (the first year WISQARS data are available) to 2001. In 2001, the rate per 100,000 for males was 12.9/100,000, 4.8 times the female rate of 2.7/100,000. The suicide rate for males dropped from a high of 18.2 in 1990 to 12.9 in 2001, a 29 percent decrease. The rates between 1999 and 2001 remained relatively stable. The suicide rate for females rose slightly between 1982 and 1988 when it began to fall to its lowest rate in 2001. Although based on smaller numbers, between 1988 and 2001 the female adolescent suicide rate decreased 35 percent dropping from 4.3/100,000 in 1988 to 2.8/100,000 in 2001. Since 1998 the rates have remained relatively stable.

Tables 3 and 4 summarize data from the 2001 YRBS by sex, race, and ethnicity.

Table 3
Percent of High School Students Who Felt Sad or Hopeless, Seriously Considered Attempting Suicide or Attempted Suicide in the 12 Months Preceding the Survey by Sex, Race, and Ethnicity
CDC's Youth Risk Behavior Surveillance System
UNITED STATES 2001

Felt Sad or Hopeless	Females	Males	Total
Total	34.5% (±1.8)	21.6% (±1.2)	28.3% (±1.3)
Whites	32.3% (±2.9)	20.5% (±1.4)	26.5% (±1.8)
Blacks	36.3% (±3.4)	20.9% (±2.3)	28.8% (±2.2)
Hispanics	42.3% (±3.3)	25.4% (±2.7)	34.0% (±2.3)
Considered Attempting Suicide	Females	Males	Total
Total	23.6% (±1.8)	14.2% (±1.3)	19.0% (±1.4)
Whites	24.2% (±2.6)	14.9% (±1.6)	19.7% (±1.8)
Blacks	17.2% (±1.9)	9.2% (±2.2)	13.3% (±1.5)
Hispanics	26.5% (±4.3)	12.2% (±2.3)	19.4% (±2.8)
Attempted Suicide	Females	Males	Total
Total	11.2% (±1.0)	6.2% (±1.1)	8.8% (±0.8)
Whites	10.3% (±1.4)	5.3% (±1.3)	7.9% (±1.0)
Blacks	9.8% (±2.0)	7.5% (±2.0)	8.8% (±1.2)
Hispanics	15.9% (±2.4)	8.0% (±1.6)	12.1% (±1.6)

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In Table 3, although females have lower suicide rates than males, they have higher rates than males for feeling sad and hopeless (34.5% vs. 21.6%), considering suicide (23.6% vs. 14.2%), and unsuccessful suicide attempts (11.2% vs. 6.2%). Whites also had higher rates of considering suicide than Blacks (19.7% vs. 13.3%) but Blacks had slightly higher rates for suicide attempts (8.8% vs. 7.9%). Hispanic and White females had the highest rates for considering suicide (26.5% and 24.2% respectively) and attempting suicide (15.9% and 10.3% respectively). Black males had the lowest rate of considering suicide (9.2%), while white males had the lowest rate of attempted suicides (5.3%). (Grunbaum et. al., 2002)

Table 4
Percent of High School Students Who Carried a Weapon (i.e., gun, knife, club,) or Carried a Gun on One or More of the Past 30 Days by Sex and Year by Sex, Race, and Ethnicity CDC's Youth Risk Behavior Surveillance System UNITED STATES 2001

Carried a Weapon	Females	Males	Total
Total	6.2 (±0.8)	29.3 (±3.3)	17.4 (±1.9)
Whites	5.1 (±1.1)	31.3 (±4.3)	17.9 (±2.6)
Blacks	8.6 (±2.3)	22.4 (±3.6)	15.2 (±2.4)
Hispanics	7.4 (±1.6)	26.0 (±2.9)	16.5 (±1.5)
Carried a Gun	Females	Males	Total
Total	1.3 (±0.3)	10.3 (±1.8)	5.7 (±1.0)
Whites	1.0 (±0.5)	10.2 (±2.3	5.5 (±1.3)
Blacks	1.1 (±0.6)	12.2 (±3.6)	6.5 (±1.9)
Hispanics	1.6 (±0.7)	8.0 (±2.0)	4.8 (±1.1)

Table 4 shows that males had higher rates than females of carrying a weapon (29.3% vs. 6.2%) or a gun (10.3% vs. 1.3%) to school in the past 30 days. This is true for Blacks, Whites, and Hispanics.

Throughout the world suicide rates are found to be higher in rural versus urban areas. When suicide rates are mapped by county in the U.S., they are higher in the counties in the western, less populated states. This relationship holds even when rates are controlled for age, sex, and race. Looking at urbanization, suicide rates are highest in less populated areas as compared to densely populated cities. (Goldsmith et al., 2002) Much of this observed difference may be more appropriately attributed to various policies and programs implemented in densely populated areas, such as those for New Jersey discussed later in this report.

Tables 5 looks at method of adolescent suicides (age 15-19 years) in the U.S. between 1991 and 2001 for males and females using WISQARS data. (NCIPC, accessed 3/22/04)

Table 5
Percent Distribution of Method of Suicide by Gender and Year
Using CDC WISQARS Mortality Data (1992-2001)
United States 15-19 Year Olds

MALES	Firearms	Poisoning	Suffocation	Other Method
1991	70.9%	7.1%	17.6%	4.4%
1992	71.5%	6.8%	18.0%	3.7%
1993	70.7%	6.4%	18.4%	4.5%
1994	73.0%	4.1%	18.2%	4.7%
1995	69.3%	5.0%	19.8%	5.9%
1996	66.3%	5.7%	22.7%	5.2%
1997	65.4%	3.4%	25.7%	5.4%
1998	64.9%	4.5%	24.9%	5.7%
1999	64.4%	4.2%	25.8%	5.7%
2000	58.7%	5.2%	30.6%	5.5%
2001	55.2%	4.9%	33.7%	6.2%
FEMALES	Firearms	Poisoning	Suffocation	Other Method
FEMALES 1991	Firearms 49.5%	Poisoning 29.6%	Suffocation 16.1%	Other Method 4.8%
		+		
1991	49.5%	29.6%	16.1%	4.8%
1991 1992	49.5% 47.4%	29.6%	16.1% 18.1%	4.8% 4.5%
1991 1992 1993	49.5% 47.4% 52.6%	29.6% 30.0% 24.1%	16.1% 18.1% 16.4%	4.8% 4.5% 6.8%
1991 1992 1993 1994	49.5% 47.4% 52.6% 57.9%	29.6% 30.0% 24.1% 21.4%	16.1% 18.1% 16.4% 14.7%	4.8% 4.5% 6.8% 3.0%
1991 1992 1993 1994 1995	49.5% 47.4% 52.6% 57.9% 53.6%	29.6% 30.0% 24.1% 21.4% 20.1%	16.1% 18.1% 16.4% 14.7% 18.6%	4.8% 4.5% 6.8% 3.0% 8.0%
1991 1992 1993 1994 1995 1996	49.5% 47.4% 52.6% 57.9% 53.6% 48.3%	29.6% 30.0% 24.1% 21.4% 20.1% 14.6%	16.1% 18.1% 16.4% 14.7% 18.6% 29.3%	4.8% 4.5% 6.8% 3.0% 8.0% 7.8%
1991 1992 1993 1994 1995 1996 1997	49.5% 47.4% 52.6% 57.9% 53.6% 48.3% 51.3%	29.6% 30.0% 24.1% 21.4% 20.1% 14.6% 14.1%	16.1% 18.1% 16.4% 14.7% 18.6% 29.3% 28.8%	4.8% 4.5% 6.8% 3.0% 8.0% 7.8% 5.8%
1991 1992 1993 1994 1995 1996 1997 1998	49.5% 47.4% 52.6% 57.9% 53.6% 48.3% 51.3% 50.4%	29.6% 30.0% 24.1% 21.4% 20.1% 14.6% 14.1% 13.5%	16.1% 18.1% 16.4% 14.7% 18.6% 29.3% 28.8% 28.5%	4.8% 4.5% 6.8% 3.0% 8.0% 7.8% 5.8% 7.7%

Death Data Downloaded from WISQARS on 3/22/04

Firearms were used more by males than by females as a primary method of suicide although, until 2001, it was the most frequently used method for both groups. The rate of use by males has been decreasing since 1994 from a high of 73.0 percent to a low of 55.2 percent. The rates for females increased between 1992 and 1994 and then decreased in most years to a low of 35.7

percent in 2001. Suffocation is the second most common method used by adolescent males and females (33.7% for males and 36.8% for females in 2001). As the rate of firearm use as a method has decreased, the use of suffocation has increased for both groups. Poisoning was used as a method more by females (19.2% in 2001) than males (4.9% in 2001), although the use of this method has decreased for both groups. Since female teens tend to use less lethal methods (i.e., suffocation and poisoning) more than males, this is most likely one of the reasons for their lower adolescent suicide rates.

ADOLESCENT SUICIDE: THE CASE FOR NEW JERSEY

New Jersey had the lowest adolescent suicide rate across all states for the past decade. Although based on the 2000 census New Jersey had the highest population density in the nation, the findings of this report suggest that there are other, more direct, causes for its lower teen suicide than the number of people per square mile in the state.

Table 6
Overall Adolescent Suicide Rates (age 15-19 years) per 100,000 and
Number of Deaths (in Parentheses)
Using CDC WISQARS Mortality Data
NEW JERSEY AND COMPARISON STATES

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
NJ	3.4	5.1	6.3	4.3	6.6	3.5	4.5	3.9	3.4	5.3	3.6
	(17)	(25)	(31)	(21)	(33)	(18)	(23)	(20)	(18)	(28)	(20)
NY	5.7	7.7	5.9	7.4	6.2	5.6	5.6	5.2	4.9	5.5	5.4
	(67)	(90)	(69)	(88)	(75)	(69)	(69)	(66)	(62)	(66)	(69)
FL	10.5	8.6	11.0	10.1	8.0	7.8	7.4	9.2	6.7	5.8	6.8
	(83)	(68)	(89)	(84)	(69)	(70)	(69)	(89)	(66)	(57)	(71)
ОН	10.1	10.7	8.8	10.1	9.0	5.7	7.4	8.4	6.5	7.3	7.1
	(77)	(81)	(67)	(78)	(71)	(46)	(60)	(69)	(53)	(60)	(58)
PA	6.3	10.6	9.6	8.3	8.4	11.3	8.1	7.3	7.8	7.4	8.0
	(49)	(81)	(74)	(65)	(67)	(92)	(67)	(62)	(66)	(61)	(67)
IL	11.0	8.2	8.0	9.1	9.0	6.2	6.2	7.4	6.6	6.0	7.1
	(87)	(65)	(64)	(74)	(75)	(53)	(54)	(66)	(59)	(52)	(63)
CA	9.6	8.6	10.1	7.9	8.5	8.3	6.9	6.3	4.5	5.3	4.6
	(194)	(173)	(203)	(161)	(178)	(179)	(155)	(147)	(107)	(127)	(115)
MI	11.9	11.8	10.9	10.3	10.5	8.6	10.7	8.1	8.5	6.8	8.8
	(80)	(78)	(72)	(69)	(72)	(60)	(76)	(58)	(61)	(50)	(63)
TX	12.9	13.3	11.4	12.5	11.2	11.0	12.0	9.3	7.5	9.4	7.8
	(168)	(174)	(152)	(172)	(160)	(163)	(184)	(148)	(121)	(151)	(129)

Rates based on 20 or fewer deaths are shaded.

Data Downloaded from WISQARS on 12/1/03

WISQARS data were used to examine adolescent suicide rates by state and demographic categories within states. Since rates based on 20 or fewer deaths may be unstable, they should be interpreted with caution and therefore, these cells are shaded in the tables presented in this report. Table 6 presents overall adolescent suicide mortality for the states with the largest populations by year. (NCIPC, accessed 12/1/03) The "large" states selected for comparison by MCHB were California, Florida, Illinois, Michigan, New Jersey, New York, Ohio, Pennsylvania, and Texas. With the exception of 1993 and 1995, when New York's rates were lower, and 2000, when New Jersey tied with California for the lowest rate, New Jersey had lower rates of adolescent suicide than the other "large" states, although five of New Jersey's rates (1991, 96, 98, 99, and 2001) are based on 20 or fewer deaths. It should be noted due to the low number of adolescent deaths that New Jersey experiences, rates can change dramatically but the number of deaths is still not large. Although the number of deaths increased by 56 percent between 1999 and 2000, the absolute number of deaths increased only from 18 to 28. Among these states, New Jersey stands out because of its low adolescent suicide rate over the entire 11-year period.

Table 7
Eleven-Year Adolescent Suicide Rates (age 15-19 years) per 100,000 and Number of Deaths (in Parentheses) by Sex and Race
Using CDC WISQARS Mortality Data (1991-2001)
NEW JERSEY AND COMPARISON STATES

	NJ	NY	FL	ОН	PA	IL	CA	MI	TX
Males	6.8	9.7	13.2	13.9	14.0	12.2	11.1	16.1	17.0
	(196)	(665)	(670)	(620)	(636)	(587)	(1401)	(629)	(1427)
Females	2.1	1.9	3.0	2.3	2.6	2.8	2.9	2.9	3.8
	(58)	(125)	(145)	(100)	(115)	(125)	(338)	(110)	(295)
Whites	4.8	6.7	9.4	8.5	8.7	7.8	7.6	9.5	11.3
	(202)	(648)	(699)	(631)	(664)	(565)	(1428)	(590)	(1529)
Blacks	4.0	4.0	4.9	7.4	7.1	7.8	6.1	10.1	7.6
	(41)	(114)	(106)	(87)	(75)	(136)	(127)	(128)	(166)
Hispanics	3.1	3.6	5.3	6.8	6.3	6.6	5.5	8.6	8.8
	(27)	(84)	(94)	(13)	(21)	(83)	(521)	(24)	(526)

Rates based on 20 or fewer deaths are shaded.

Data Downloaded from WISQARS on 12/1/03

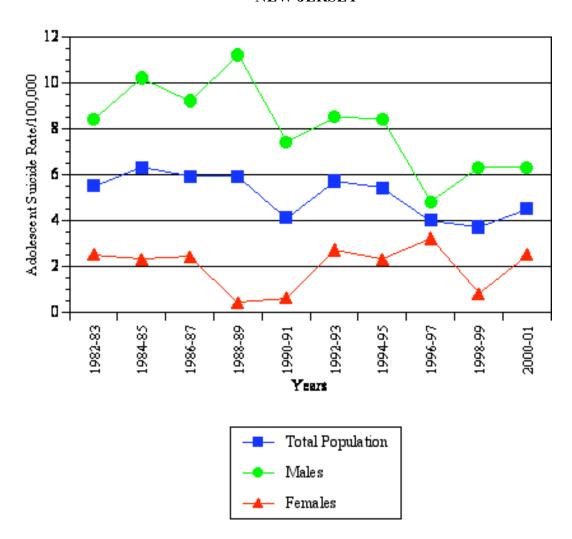
Again looking at New Jersey and the other comparison states, with large populations, Table 7 gives 11-year adolescent suicide rates (1991-2001) by sex, race, and ethnicity. American Indian/Alaskan Natives were not included because there were not enough deaths in any of these states to produce a stable 11-year rate. New Jersey had the lowest adolescent suicide rate of all the states for males, Whites, and Hispanics. It had the second lowest rate, behind New York, for females and is tied with California for the lowest rate for Blacks. Some of the differences between the Hispanic rates might be due to cultural diversity among Hispanic populations of different origins. It might also be noted that the two large population states that showed the

greatest improvement in reducing adolescent suicide during this period were California and Texas, neither being among the most densely populated states.

ADOLESCENT SUICIDE IN NEW JERSEY

According to WISQARS data for the years 1999-2001, suicide was the third leading cause of death for adolescents 15-19 years of age for New Jersey. It was also the third leading cause of death for males in New Jersey and the fourth leading cause of death for females. Looking at cause of death by race, adolescent suicide is the fourth leading cause of death for Whites, Blacks, and Hispanics. (NCIPC, accessed 3/22/04)

Figure 2
Two-Year Adolescent Suicide Mortality Rates for 15-19 Year Olds (per 100,000) by Sex Using CDC WISQARS Mortality Data (1982-2001)
NEW JERSEY



Because, in several years, the overall adolescent suicide rates for New Jersey are based on 20 or fewer deaths, two-year rates were calculated between 1982 and 2001 using WISQARS data. Figure 2 shows two-year rates by sex. The trend shows an overall decline in adolescent suicide

rates during this 20-year time period as well as a decline in the rates for males. The female rates were relatively stable during this time period, although the two-year rates for females are based on 20 or fewer deaths. Eliminating the years with unusually low female rates (1988-89, 1990-91, and 1998-99) the ratio of the male to female adolescent suicide rates went from 4.4:1 in 1984-85 to 2.5:1 in 2000-2001. (NCIPC, accessed 12/1/03)

Figure 3
Two-Year Adolescent Suicide Mortality Rates for 15-19 Year Olds (per 100,000)
by Race and Hispanic Origin
Using CDC WISQARS Mortality Data (1982-2001)
NEW JERSEY

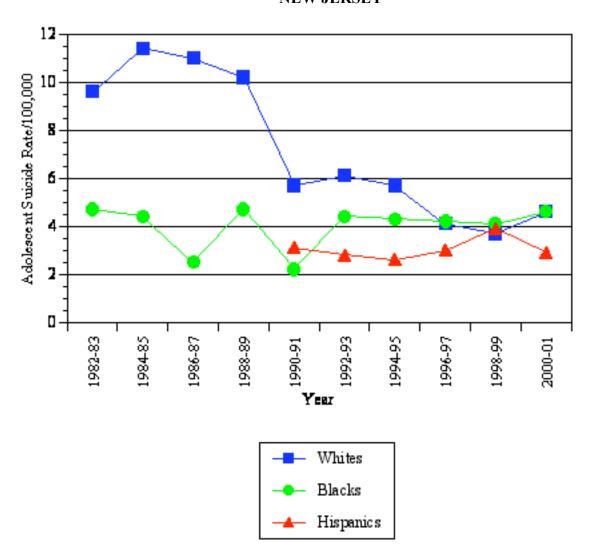


Figure 3 compares two-year rates for Whites, Blacks, and Hispanics. Again, although the white two-year rates are based on greater than 20 deaths, all of the Black and Hispanic two-year rates are based on less than 20 deaths and thus could be very unstable. In addition, Hispanic data are only available starting in 1990. In general White rates were the highest, followed by Black and Hispanic rates, although the difference between White and Black rates disappeared starting with

1996-97 due to the decrease in the white rates. Eliminating the years with unusually low Black rates (1986-87 and 1990-91) the ratio of the White to Black adolescent suicide rates went from 2.6:1 in 1984-85 to 1.0:1 in 2000-2001. Two-year White rates went from a high of 11.4/100,000 in 1984-85 and then fell to a low of 3.7/100,000 in 1998-1999. It is worth noting that there was a large drop in the White adolescent suicide rate between 1988-89 and 1990-91. Black and Hispanic rates remained essentially unchanged during this time period. (NCIPC, accessed 12/1/03)

Table 8 looks at method of suicide by gender using CDC's WISQARS mortality data. (NCIPC, accessed 12/1/03). Again, since the overall number of suicide deaths in New Jersey is so low, 11-year (1991-2001) rates are used. Firearms and suffocation are used at close to the same rate for the total population (39.0% and 40.6% respectively) and for males (42.3% and 41.3% respectively). Females used both poisoning (31.0%) and suffocation (37.9%) as a method more than firearms (27.6%). Males used firearms and suffocation as a method more than females, while females used poisoning, a less lethal method, more than males (31.0% and 5.6% respectively).

Table 8
Percent Distribution of Method of Suicide by Gender for Adolescents Ages 15-19 Years
Using CDC WISQARS Mortality Data (1991-2001)
NEW JERSEY

Gender	Firearms	Poisoning	Suffocation	Other Method
Males	42.3%	5.6%	41.3%	10.7%
Females	27.6%	31.0%	37.9%	3.4%
TOTAL	39.0%	11.4%	40.6%	9.1%

Data Downloaded from WISQARS on 12/1/03

Tables 9 and 10 present data from CDC's YRBS on suicide attempts and related risky behaviors for 2001. (Grunbaum, 2002) As mentioned earlier, this is a survey of a representative sample of high school students in grades 9-12 throughout the country. It has been conducted every two years since 1993 with state and local components. In 2001, the overall response rate for New Jersey was 60% which is a combined rate for the schools (77% responded) and the students (78% responded). The combined rate is obtained by multiplying the school response rate by the student response rate. CDC asserts that any state that obtains an overall response rate of ≥60 percent has a sample that is representative of the state and weights the state's data. Prior to the 2001 survey, response rates were too low (1993 and 1997) for the sample to be considered representative of the state or the state's most populous city was not included (1995), so these results are not included.

Table 9
Percent of High School Students Who Felt Sad or Hopeless, Seriously Considered Attempting Suicide, or Attempted Suicide in the 12 Months Preceding the Survey CDC's Youth Risk Behavior Surveillance System

NEW JERSEY 2001

Gender	Felt Sad or Hopeless	Considered Attempting Suicide	Attempted Suicide
Males	25.3%	14.8%	8.7%
Females	35.9%	19.7%	8.2%
Total Population	30.7%	17.3%	8.4%

Estimates of the percent of teenagers who felt sad or hopeless, considered suicide, or attempted suicide in the past year are summarized in Table 9 for the 2001 YRBS Survey. More females (35.9%) than males (25.3%) felt sad or hopeless and slightly more females (19.7%) than males (14.8%) considered attempting suicide in the 12 months prior to the survey. There was almost no difference in the percent of females (8.2%) and males (8.7%) who had attempted suicide in this same time period. (Grunbaum, 2002)

Table 10
Percent of High School Students Who Carried a Weapon (i.e., gun, knife, club,) or Carried a Gun on One or More of the Past 30 Days by Sex and Year CDC's Youth Risk Behavior Surveillance System NEW JERSEY 2001

Gender	Weapon	Gun
Males	20.7%	8.2%
Females	5.5%	1.4%
Total	13.1%	4.8%

Table 10 summarizes estimates of the percent of respondents who carried a weapon or carried a gun specifically on one or more of the past 30 days in 2001. More males (20.7%) than females (5.5%) carried a weapon in the last 30 days. This same pattern is seen for carrying a gun, 8.2 percent of males as compared to 1.4 percent for females. (Grunbaum, 2002)

Hospital discharge records also provide data on suicide attempts. These data are summarized in the *Northeast Injury Prevention Network Suicide Databook* for self-inflicted injuries in the eight states in the northeast for 1996. For New Jersey, the rate (per 100,000) of hospital discharges for

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a self-inflicted injury for 15-19 year olds in 1996 was 131.4. Poisoning was by far the most common method used by adolescents (116.0/100,000). This method was followed by cutting/piercing (7.1/100,000). (EDC, 2000) Hospital discharge data for 2001 for New Jersey, supplied by Lakota Kruse, showed a rate of suicide attempts (per 100,000) of 155.0 for females and 64.2 for males, which supports YRBS data that females attempt suicide at a higher rate than males. (Kruse, 2003) It should be remembered that only suicide attempts that require hospitalization are included making this a likely under-estimate of all suicide attempts.

ADOLESCENT SUICIDE PREVENTION ACTIVITIES IN NEW JERSEY

The site visit took place on May 12, 2003. It began with an introductory meeting with Celeste Andriot Wood, Assistant Commissioner for Family Health Services, Kathleen Mackiewicz, Program Development Specialist in the Child and Adolescent Health Program, and Lakota Kruse, MCH Epidemiologist and Medical Director, New Jersey State Department of Health and Senior Services. The majority of the visit was spent with a multi-organization team, most of who are members of the Suicide Prevention Team. Two members of the site visit team, John Kalafat and Maureen Underwood, have been working together on adolescent suicide prevention for the past 23 years and are well respected nationally and John Kalafat is a past president of the American Association of Suicidology. A listing of all site visit participants can be found in the Appendix.

Taking the Lead on Adolescent Suicide Prevention

In New Jersey, the **Suicide Prevention Team** brings together key players in the state who could impact the suicide rate. They meet as needed and their focus is on suicide during the entire life cycle not just adolescence. Kathleen Mackiewicz, a member of this team, brought this team together for the site visit. Celeste Wood and Kathleen Mackiewicz do not feel the **Title V Agency** has the primary responsibility for reducing the adolescent suicide rate for New Jersey but is the facilitating agency. The Title V Agency does appear to be key in keeping the Suicide Prevention Team going and its activities moving forward to further reduce the adolescent suicide rate in New Jersey. Any severe stressor (e.g. difficulties in dealing with sexual orientation; unplanned pregnancy; bad grades; other real or impending loss; loss of family stability or a significant family conflict; anniversary of significant dates, such as the date of a person's death or holidays) that can lead to suicide are issues Title V addresses through its various programs.

Kathleen Mackiewicz is also a member of the **Northeast Injury Prevention Network**, a volunteer public health organization dedicated to the collaboration and sharing of ideas among eight state health departments: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. The Network was started in 1995. A Suicide Databook was published in 2000 that represents a cooperative effort by state health departments in USDHHS Regions I and II to describe the extent of suicide in the Northeast. For each state, the following information is summarized:

- top five leading causes of injury-related deaths (1992-1996) by age groups (10-24, 25-64, 65+);
- top five leading causes of injury-related hospital discharges (1992-1996) by age groups (10-24, 25-64, 65+);

- frequency of deaths and mortality rates by method of suicide (1992-1996) by age groups (10-14, 15-19, 20-24, 25-44, 45-64, 65+, and total);
- frequency of hospital discharges and discharge rates by method of self-inflicted injury (1992-1996) by age groups (10-14, 15-19, 20-24, 25-44, 45-64, 65+, and total);
- costs for completed suicides and medically treated self-inflicted injuries (1996) by age groups (10-14, 15-19, 20-24, 25-44, 45-64, 65+, and total) and cost category (medical, lost wages, total):
- completed suicide rates (1992-1996) by race and Hispanic origin;
- hospital discharge rates for suicide attempts (1992-1996) by race and Hispanic origin;
- frequency of deaths and mortality rates by method of suicide (1992-1996) by sex; and
- frequency of hospital discharges and discharge rates by method of self-inflicted injury (1992-1996) by sex. (EDC, 2000)

Over 5,000 copies of the report have been distributed.

In June 2000, as a result of the Surgeon General's 1999 *Call to Action to Prevent Suicide*, the group held a multi-state meeting to begin the development of a suicide prevention plan for the region. This was the beginning of the New Jersey Suicide Prevention Team. As a result, a draft **Suicide Prevention State Plan** was developed for New Jersey. The plan identifies a number of efforts that are ongoing related to suicide prevention but also identifies the following needs:

- improved surveillance systems,
- better epidemiological data on suicide to plan interventions that address known risk factors at the local level, and
- better evaluations of the interventions.

In addition, Ms. Mackiewicz is the New Jersey State representative to the State and Territorial Injury Prevention Director Association.

There is also an **Injury Prevention Working Group** that addresses adolescent suicide among other intentional injuries. This is also an interagency group with representatives from MCH Health Services, Statistics, EMS, Human Services, and Occupational Services. Kathleen Mackiewicz is the MCH representative to this group. They meet quarterly and take a planning and coordination role but do not take a specific lead for adolescent suicide. Because injuries, including homicide and suicide, are a leading cause of death and disability for residents of all ages in New Jersey and account for approximately 3,200 deaths per year, the Injury Prevention Work Group produced a draft **Injury Prevention and Control White Paper** in 2002 to:

- provide a history of injury prevention and control efforts in New Jersey;
- describe the current status of injury prevention and control; and
- propose an organizational structure to establish an interdivisional and interdepartmental injury prevention and control system for the State.

Although suicide and adolescent suicide are mentioned in this paper, it speaks more generally to injury prevention for the State. The paper may be used to establish a centralized injury program for the State.

The New Jersey Center for Health Statistics has the responsibility for releasing adolescent suicide rates to the Governor and Legislature. There are no specific levels of the adolescent

suicide rate that are regarded as sentinel events; however, there are actions taken whenever an attempt or completion is known.

Surveillance

Lakota Kruse directs the MCH Epidemiology Unit within the New Jersey Division of Family Health. Although he uses WISQARS data for the MCHB indicator, he has access to the State hospitalization and mortality files. Annual state-level death rates and five-year rates at the county level are reviewed. New Jersey has a regional MCH health system so regional rates are also run. The MCH Epidemiology Unit has linked eight years of death certificate data to hospital discharge data and is examining the consistency between the hospital discharge and death certificate files for suicide cases, the outcome of suicide attempts, and the disparities in age, race/ethnicity, and method specific suicide rates.

There is a county **medical examiner system** and a state office with two medical examiners. The Office of the State Medical Examiner determines the causes and manner of all violent, suspicious and unusual deaths. The State Medical Examiners conduct medical investigations of apparent homicides, suicides and other deaths. The State Medical Examiner has general supervisory authority over all County Medical Examiners. All of the County Medical Examiners are physicians. Problems arise because of inconsistency in the use of E codes and death certificates that list multiple causes of death.

The **Child Fatality and Near Fatality Review Board** reviews all fatalities or near fatalities. They are not reviewing suicide deaths to a great extent now due to lack of staffing. They are much more focused on deaths that would relate to Child Protective Services. They are planning to develop a system for adolescent suicide reviews much like that used for maternal death reviews.

In 2003, New Jersey received CDC funding (one of six states) to implement Linking Data to Save Lives. This is a **National Violent Death Reporting System** (NVDRS) that will compile and combine data from medical examiners, coroners, police, crime labs, and death certificate registrars. It will provide a more complete understanding of when, where, and how the deaths occurred. Six foundations funded the Harvard School of Public Health to design and pilot this information system in 13 sites including locations in Connecticut, Maine, Maryland, Michigan, Utah, Wisconsin, Allegheny County (PA), Miami-Dade County (FL), metropolitan Atlanta, and San Francisco. This funding was intended to be a short-term bridge to a federally funded, national system. While the NVDRS is federally funded, there is local control over data collection. For cases of suicide, information will be drawn largely from the death certificate and the medical examiner or coroner's report and will include data about the victim's mental and physical health, substance-use status, previous suicide attempts, and current life crisis.

Suicide Interventions

There are a number of ways to organize information on suicide prevention interventions. In this report, they will first be organized by type of intervention using the same categories as the literature review (community, school, and health care system). Since adolescent suicide rates for

New Jersey have been low for a long time and some members of the site visit team have also been working on the problem for a long time, interventions will be described chronologically within each category.

Community-Wide Regulatory Interventions and Statutes:

New Jersey passed its first statewide **gun law restricting access to guns by minors** in 1979 and the law was amended in 1980 and 2000. The current law requires the following:

- "No person under the age of 18 years shall purchase, barter, or otherwise acquire a firearm and no person under the age of 21 shall purchase, barter, or otherwise acquire a handgun, unless the person is authorized to possess the handgun in conjunction with the performance of official duties
- No person under the age of 18 years shall possess, carry, fire, or use a firearm ... and no person under the age of 21 shall possess, carry, fire or use a handgun except under the following circumstances:
 - In the actual presence or under the direct supervision of his father, mother or guardian, or some other person who holds a permit to carry a handgun or firearms purchaser identification card, as the case may be; or
 - For the purpose of military drill under the auspices of a legally recognized military organization and under competent supervision; or,
 - For the purpose of competition or target practice in and upon a firing range approved by the governing body of the municipality in which the range is located or the National Rifle Association and which is under competent supervision at the time of such supervision or target practice or instruction and training at any location; or
 - For the purpose of hunting during the regularly designated hunting season, provided that he possesses a valid hunting license and has successfully completed a hunter's safety course taught by a qualified instructor or conservation officer and possesses a certificate indicating the successful completion of such a course."

This law is enforced and a person who violates it is guilty of a crime of the fourth degree. (NJPS 2C:58-6.1, 2000)

The **Program for Youth Suicide Prevention Projects** was established by statute in 1985 and amended in 1987. It was formed after four teens committed suicide in Bergenfield, New Jersey. The statute requires that the "Department of Human Services shall establish a program of youth suicide prevention projects which will be administered by community mental health services providers in consultation with local boards of education. The objectives of the program include but are not limited to the following:

- classroom instruction or materials designed to teach students facts about adolescent suicide and how to recognize signs and suicidal tendencies, inform students of available community services aimed at suicide prevention, and increase students' awareness of the relationship between adolescent suicide and drug and alcohol use;
- training programs for classroom teachers and other teaching staff in suicide prevention;
 and
- nonclassroom school or community-based programs such as 24-hour "hotlines" staffed by trained professional counselors, crisis intervention and postintervention services,

parent educational programs and programs for the families of suicide victims." (NJPS 30:9A-13, 1985)

The Commissioner of Human Services in consultation with the Commissioner of Education was to prepare guidelines for the youth suicide prevention program. The Commissioner is charged with soliciting, reviewing, approving, and funding the three proposals which best meet the objectives of the program. One each was to go to the northern, central, and southern regions of the State. (NJPS 30:9A-15, 1985) The community mental health service providers were to prepare the proposals in cooperation with two or more local boards of education. (NJPS 30:9A-16, 1985) Specific interventions implemented as part of this statute are described later in this report under non-regulatory interventions.

Although not focused specifically on children and adolescents, a statute was enacted in 1989 that mandated a **Psychiatric Screening Center** (PSC) in every county. These centers have been operational in some counties since 1979. The centers are focused on adults but children are seen if they need screening or are felt to be a danger to self, other life, or property. Adolescents are predominantly seen in the ER. The PSCs are open 24 hours a day, seven days a week and are staffed by a psychiatrist, nurse, and mental health technician. In Mercer County they see 4,000 to 5,000 persons per year and they have a center for children, while the other counties have a child clinician on staff. These Centers have a record system that might be unique to New Jersey. They are not computerized but hard copies are available and could be computerized.

There is also a law in New Jersey that requires **reporting of certain wounds or injuries including suicide attempts**. It is not clear when the original law was passed but it was amended in 1991 and is the version described here. It requires that "every case of a wound, burn or any other injury arising from or caused by a firearm, destructive device, explosive or weapon shall be reported at once to the police authorities of the municipality where the person reporting is located or to the State Police by the physician consulted, attending, or treating the injury, or by the manager, superintendent, or other person in charge, whenever such case is presented for treatment or treated in a hospital, sanitarium, or other institution." (NJPS 2C:58-8, 1991) This does not apply to a member of the armed forces of the United States or the State of New Jersey while engaged in the actual performance of duty. This law helps to identify suicide attempts that are then referred for follow-up.

In 2000, a **Childproof Handgun Bill** was passed but, to date, the handgun technology has not been perfected well enough for the law to be completely implemented. It was hoped that handguns with this technology would be available in 2003 but, in early 2004, they were not yet available. A childproof handgun is one that uses technology to allow operation of the gun by only recognized and authorized adult users. The law requires every firearm sold in New Jersey (with the exception of rifles and shotguns) to be equipped with either the new "smart gun" technology or be fitted with a safety lock. While the "smart gun" technology is currently being developed, trigger locks are available. The Governor provided a \$175,000 appropriation to fund a \$5 rebate for trigger locks. In addition, he provided a \$90,000 appropriation to the Department of Law and Public Safety to be allocated proportionately to each county prosecutor's office for the express purpose of providing trigger locks, free of charge, to firearm users. In the end, the Division of Criminal Justice bought cable gun locks in bulk after State Police conducted exhaustive testing for performance and safety on a variety of sample locks. The cable gun locks

were chosen because they can be used on both handguns and long barreled guns. Locks were provided to all 21 county prosecutor's offices to be provided exclusively to firearm owners and not to retail, licensed firearm dealers. They were provided on a first-come, first-serve basis until the supply ran out, and no more than two locks were given to each person due to limited supply. The law requires the Attorney General to investigate the wholesale market for hand guns every six months. As soon a s/he finds a single childproof handgun available wholesale, anywhere in the U.S., s/he must declare that, 36 months later, the only handguns that can be offered for sale in New Jersey will be childproof handguns.

Enacted on April 14, 2001 and implemented immediately, **Emergency and Crisis Management Plans** are now required in the schools. As part of this, each district board of education is to establish plans, procedures and mechanisms for responding to emergencies and crises. At a minimum the plans are to provide for:

- "the protection of the health, safety and welfare of the school population; and
- supportive services for staff, students, and their families."

Law enforcement agencies, health and social services agencies and emergency management planners are to be consulted in development of the plans. In-service training programs for school staff to enable them to recognize and appropriately respond to crises are to be developed and provided. (NJPS 6A:16-5.2, 5-7-01)

A bill to establish a **Youth Suicide Prevention and Reporting Program** in the Division of Mental Health Services in the Department of Human Services was introduced November 25, 2002 and was passed on January 9, 2004. The purpose of the program is to:

- Collect information about those youth who attempt suicide, and provide the information to both professionals who are in contact with the youth at risk of suicide and families at risk
- Identify and provide suitable intervention services to reduce the incidence of youth suicide
- Educate youth and families at risk about the resources available for suicide prevention and intervention.

Persons listed in the bill as *required* to report include public school teaching staff, licensed psychologists, social workers, marriage and family therapists, professional counselors, physicians, physician assistants, alcohol and drug counselors, registered nurses, and licensed practical nurses. Persons listed as being *encouraged* to report include any public health officer, employee of the Family Court, Certified Domestic Violence Specialist, or member of a professional group identified by the New Jersey Youth Suicide Prevention Advocacy Council (established in this bill). The reporting form will NOT require that the reporter identify the person by name or other unique identifier, therefore the records will not be able to be deduplicated. The Division of Mental Health will compile a report each year on attempted and completed suicides by youth and include recommendations for legislation or regulatory changes that would aid in the collection of more accurate data or the provision of more effective youth suicide prevention and intervention programs. (NJA 1515, 2003 and NJS 1515, 2003)

In addition, the bill establishes in the Department of Human Services the **New Jersey Youth Suicide Prevention Advisory Council**. "The purpose of this council will be to:

- examine existing needs and services and make recommendations to the Division for Youth Suicide Reporting, Prevention, and Intervention in the Department of Human Services;
- advise the Division on the content and informational materials to be made available to persons who report attempted or completed suicides; and
- advise the Division in the development of regulations required pursuant to this act." The council will consist of 17 members. The way these individuals will be chosen is laid out in the law and they will represent both public and private agencies/groups. (NJA 1515, 2003 and NJS 1515, 2003)

Non-Regulatory Interventions in the Community:

Crisis Hot Lines were started in 1979 and became mandatory for every county via statute in 1989 as part of the statute on Psychiatric Screening Centers described earlier. They are staffed 24 hours a day and have a response team who will go out to see the caller. Serious suicide attempts are hospitalized but most are not medically serious enough to be admitted although they might have an emergency room record.

Following a suicide cluster in Bergen County, New Jersey, the New Jersey State Department of Health and CDC sponsored a workshop in New Jersey on November 16-17, 1987 to develop a set of recommendations for a **Community Plan for the Prevention and Containment of Suicide Clusters**. Participants came from around the country and represented a variety of sectors of the community including education, medicine, local government, community mental health, local crisis centers, and state public health and mental health. Representatives from the National Institute of Mental Health, the Indian Health Service, the Association of Suicidology, and the Association of State and Territorial Health Officials also participated. The recommendations were meant to provide a conceptual framework for community leaders in developing their own suicide-cluster-response plans. (CDC, 1988)

Covenant House of New Jersey (CHNJ), in operation since 1989, is a non-profit 501(c)(3) organization providing services to homeless and at-risk youth. Although a subsidiary of Covenant House International, CHNJ is incorporated separately with its own Board of Directors. Its mission is to serve homeless children regardless of race, religion, ethnic origin, or sexual orientation. CHNJ opened in response to the alarming rate of homelessness among the State's young people. Initially, programs consisted of van outreach and small storefront centers located in Newark and Atlantic City. The outreach staff traveled the streets meeting youth on their own turf and providing intervention. CHNJ first provided shelter in Atlantic City and Newark in rented facilities. The first major milestone was the opening of a permanent Crisis and Community Service Center in Atlantic City in 1997. The Atlantic City Center is a 27-bed facility for homeless youth in crisis and young mothers and children. There is a health clinic, meditation room, library, cafeteria, residential lounge, computer training center, reception area, and administrative offices.

The second significant event was the opening of a permanent, newly renovated Crisis/ Community Center in Newark in October 2000 allowing for the expansion of existing services and programs and the development of new ones. Covenant House Newark offers a full range of services 24 hours a day, 7 days a week, 52 weeks a year for homeless, runaway and at-risk youth age 21 and under. It is a residential facility with separate floors for males and females, each with a lounge and bedrooms. There is also a reception/intake area, non-denominational chapel, multipurpose room, day room/socialization area, technical learning center, educational/vocational classrooms, health clinic (providing both physical and mental health services), full service kitchen and dining area, laundry rooms, showers, and staff offices. The entire building is handicapped accessible. It has a capacity of 45 youth, an increase of 20 from the previous facility. Most youth who come there are from lower socioeconomic or dysfunctional families.

The goal of CHNJ is to provide the services necessary to prepare the young people for independent living. To meet this goal, current programs include:

- crisis services,
- rites of passage (transitional living),
- street outreach,
- vocational/educational training,
- life skills,
- recreation,
- arts and culture,
- legal services,
- pastoral care, and
- helping youth to live independently.

In 2000, CHNJ served approximately 1,400 youths. Success of the programs will have an impact not only on the youth but also on the local community as the youth become productive members of society. Most youth served are between 16 and 21 years of age; and CHNJ is the only social service agency in the state serving the 17-21 year-old homeless population. Young people who come to CHNJ are served at no cost. (CHNJ, accessed May 6, 2003)

Funded by the State through the University of Medicine and Dentistry of New Jersey, **Psychiatric Screener Certification Training** started in 1990. Every county has a Certified Psychiatric Screener frequently located in a hospital. If someone is identified as being at high risk for suicide, they are referred here for screening. The training for these screeners currently includes a lecture on the aftermath of suicide given by the mother of a child who committed suicide in college. This is viewed as an absolutely necessary part of certification training by the trainees.

The Mercer County Traumatic Loss Coalition was started in 1995 as a result of several suicides (eight children and one teacher) that took place there. None of the victims had ever had any kind of mental health treatment. When the Coalition started, CDC did not have much information to share with them on handling traumatic loss. The Coalition, which is comprised of members from various sectors of the community, widened its scope and provides a coordinated response to traumatic loss incidents. In addition, it seeks to address the prevention of destructive behaviors of Mercer County adolescents and their families. Specific events are suicides, homicides, motor vehicle crashes, natural and man-made disasters including terrorist attacks. Some of the agencies the coalition works with are all Mercer county district schools, hospitals, mental health agencies, law enforcement, clergy, funeral home directors, and emergency/relief

government agencies. The Coalition has been available for on-going training for school personnel on managing traumatic loss in the community which is very important due to staff turnover. A key project component, the *School Crisis Response Team*, focuses on assisting schools in the aftermath of a traumatic event. The Coalition was present in all the Mercer County Schools after the tragic events of September 11, 2001 (9/11) to provide support, control, structure and to attempt to return the campus to a pre-crisis state. Information packets were provided to all the schools on community resources and coping strategies. The Coalition has also been involved in organizing a day-long in-service training in one school district focusing on coping with the 9/11 events and their aftermath. Initially, they received a Governor's Initiative Grant that covered an education awareness specialist, community educator, and family support services, but this has ended. Currently it receives some funding from the Department of Health and Senior Services for a coordinator and part-time educator.

Spear-headed by the mother of a child who committed suicide in 1998, **Postvention to**Individuals and Families Bereaved by Suicide was started. In addition, a local chapter of the American Foundation for Suicide Prevention was formed. As part of these activities, several suicide survivors visit families at home on a volunteer basis to assist those struggling through their loss and provide information about support groups. A brochure has been produced describing how support groups can help and provides contact information. In addition, the Foundation has produced a public service announcement film for teens, "Kids Telling Kids About Depression," and a film for college students on depression and dealing with friends. They have produced written material for the media on reporting suicide and a resource and healing guide for surviving a suicide loss. A spin-off has been the formation of a program, People of Color Against Suicide, that was funded by the Foundation and the New Jersey Department of Health and Senior Services. This activity is now nationwide. Time is also devoted to raising money to support scientific work related to suicide prevention.

In 1999, the **Traumatic Loss Coalitions for Youth Program** was created to establish Traumatic Loss Coalitions in each of New Jersey's 21 counties and to provide ongoing technical assistance to communities in crisis. This mechanism for proactive planning was modeled after the first Traumatic Loss Coalition in Mercer County which was funded by the New Jersey Department of Health and Senior Services. The mission of these countywide coalitions is to develop a coordinated response to traumatic loss events and crises affecting youth, and update those working with youth on mental health issues including suicide and violence prevention. These coalitions include representatives from schools as well as mental health, law enforcement, faith based, and community agencies. Through scheduled meetings, they share resources, concrete plans, and procedures. This enables those in crisis to know who to contact and what to do in response to a traumatic event affecting school-aged youth. It also provides them with a timely update on prevention strategies. Since the inception of the program, over 10,700 community members working with adolescents in school systems, law enforcement, and mental health have been trained by the Traumatic Loss Coalitions. This has been accomplished through:

- 21 county coalition trainings in youth suicide, assessment, and traumatic loss management in the schools;
- 9 county conferences;
- 3 statewide conferences:
- 2 statewide teleconferences:

- 2 in-service trainings;
- 1 national presentation at the Annual Meeting of the American Association of Suicidology; and
- Monthly educational components at coalition meetings.

Evaluations from these presentations have been extremely positive.

The New Jersey Traumatic Loss Coalitions Program has responded to the needs of youth, school personnel, and parents after the events of 9/11, the heightened anxiety around bioterrorism, and the war in Iraq. This was accomplished by disseminating the following documents to school systems through county coalition coordinators and posting them on their website:

- Guidelines for Helping Children Cope with War and Terrorism;
- Common Reactions in the Aftermath of Our National Tragedy;
- Helping Children Cope with National Tragedy: Guidelines for Educators and Parents;
- Helping Parents Help Their Children: Information About Coping with Trauma;
- Talking with Young Children About Death: Strategies for School Systems;
- Common Reactions Associated with Childhood Bereavement and How Adults Can Facilitate the Work of Mourning;
- Contributions Young People Can Make in This Time of National Tragedy;
- Suggested guidelines for viewing a "9/11" program aired on CBS,
- September 11th Commemoration Guidelines for Families;
- September 11th Commemoration Guidelines for School Staff; and
- September 11th Commemoration Related Events, Links and Resources.

In addition, a video entitled *Coping and Resiliency of Youth* was produced and disseminated to 4,000 schools throughout New Jersey.

Mercer County Family Support Services started in 1999 and lasted for three years. Interventions were targeted to specific individuals who already had been identified through screening procedures. Family Support Services was a comprehensive mental health program designed to assist youth at risk. Services included a psychiatric evaluation, assessment, crisis intervention, and intensive in-home family and individual counseling. The services were funded by the Division of Mental Health through Mercer County Traumatic Loss Prevention Services (a 24 hour a day/7 day a week program subcontracted to Capital Health System). In addition, Y.E.S.—Youth Emergency Services, provided psychiatric intervention and suicide prevention for Mercer County children and teens as part of this program. Although they were felt to be valuable, the services were discontinued in June 2002 due to a lack of funding.

Project Phoenix is the New Jersey Federal Emergency Management Agency (FEMA)/ Substance Abuse and Mental Health Services Administration (SAMHSA)-funded mental health response to the events of 9/11. It seeks to prevent serious mental illness by providing short-term interventions that educate people about responses to traumatic events, stresses resilience and teaches coping skills. It also seeks to de-stigmatize mental health services by educating people about their responses to traumatic events. Another component is the provision of clinical mental health services for people whose reactions persist. The Project focuses on vulnerable populations such as children, older adults, people who had close proximity to the disaster, survivors of the event, first responders, people who lost loved ones, ethnic minorities, people

who are disenfranchised, and anyone whose life circumstances are so changed by these events that they are having difficulty coping with every day life.

Started by a group of mental health professionals with practice specialties in loss, trauma, and crisis intervention for families and children, the **Families' GOALS (Going On After Loss) Project** has been providing a unique range of services in the New York – New Jersey metropolitan area in response to the events of 9/11. The project includes a number of activities:

- holding family support groups where project staff and volunteers provide a two-part series of psychoeducational support groups, each six sessions in length, that allow participants (parents and children age 3-16) to discuss the ways they have been impacted by the events of 9/11 (originally it served two New Jersey counties, but expanded to seven other New Jersey counties);
- producing "Beyond 9/11," a workbook and videotape for schools to assist them in addressing current and future terrorist related concerns;
- contributing material to the Families and Work Institute website, "9/11 as History;"
- editing the content of a video to help school nurses address the issues of terrorism and trauma (sponsored by the Johnson and Johnson Foundation and produced by The Center for Alcohol Studies at Rutgers University);
- authoring a monthly advice column for Catholic Charities of the Diocese of Paterson;
- developing a curriculum to assist students in the Jersey City schools who witnessed the 9/11 events; and
- providing training for the American Group Psychotherapy Association on developing groups for complicated bereavement.

It is funded by Project Phoenix, with support from the Mental Health Association of New Jersey and Catholic Community Services of Newark.

In 2001, a **SUICIDE poster** was produced and has been distributed to over 2,000 adolescent providers statewide. It was designed by staff from the University of Medicine and Dentistry of New Jersey, Mercer Traumatic Loss Coalition and Department of Health and Senior Services and includes risk behaviors and the 1-800-SUICIDE number.

Regulatory Interventions in the Schools:

In 1867 New Jersey became the first state in the U.S. to legally ban corporal punishment in the schools. In 1972, when the American Civil Liberties Union and the American Orthopsychiatry Association sponsored a conference on corporal punishment, New Jersey and Massachusetts were the only states that banned corporal punishment in the schools. This may make the schools in New Jersey more student-friendly and thus impact on reducing adolescent suicide.

Non-Regulatory Interventions in the Schools:

At least since 1979, the *Princeton Center for Leadership Training* (PCLT) has been active in New Jersey. PCLT's founding principles are:

- "Leadership is the ability to motivate and inspire others to achieve shared objectives.
- Collaboration among diverse groups with multiple agendas is essential to create a productive learning environment.

- Collaborative models help people realize what they have in common and discover how they can use their diverse talents and strengths to lead institutional change.
- The establishment of new practices and a system for sustaining them over time is critical to achievement of lasting change.
- Today's leaders have a responsibility to identify, develop, and prepare the leaders of tomorrow."

A number of **skills building programs** are offered that could impact on adolescent suicide. The following programs are offered for high school students:

- Started in 1979, the *Peer Group Connection* helps incoming high school students adjust to their new environment. Senior peer leaders are trained through a course for credit to serve as team mentors to groups of freshman. The program enables schools to build caring, safe learning communities where diversity is respected and celebrated.
- The New Jersey Teen Prevention Education Program (Teen PEP) is a statewide, school-based program that enables adolescents to develop critical skills necessary in making healthy life decisions. At participating high schools, junior and/or senior students are enrolled in a course for credit to train them to become peer educators, effective sexual health advocates, and role models. Peer educators conduct outreach workshops on unplanned pregnancy, HIV/AIDS, other sexually transmitted infections, postponing sexual involvement, sexual harassment, dating violence, homophobia reduction, and other sexual health concerns.
- *Transition Project* is a statewide program designed to help incoming freshmen make a successful adjustment to high school. After being trained, student leaders co-facilitate monthly "Learning Station" activities for all freshman on topics such as decision-making, problem-solving, time management, active listening, communication, and relationship-building.
- Gesher LeKesher is a high school peer leadership program whose goal is to engage adolescents by having them examine issues of personal relevance with their peers through a Jewish lens.

The following programs are offered for middle school students:

- *NJ Peer to Peer* (NJPTP) is a statewide, school-based program designed to develop leadership capacity and reduce substance abuse. Student leaders are identified and trained to lead interactive workshops with peers, parents, and faculty on topics such as substance abuse prevention, conflict resolution, problem solving, and child-parent communication.
- *REBEL 2* is a tobacco-prevention after-school program. It focuses on helping students, their families, and communities to change social norms about tobacco.

The *Peacemakers* program is designed for elementary schools to teach pro-social behaviors to students age 4-12. Small groups of students are brought together to improve listening, thinking, communication, and social problem-solving skills. *The Parent Leadership Corps* (PLC) is a program for parents focused on improving communication between adults and their children in the interest of preventing substance abuse by children and teens. The PCLT will also design customized training to prepare teachers, counselors, and administrators to implement positive changes in their schools. As of July 2001, 280 schools, at least one in every county in New Jersey, had participated in one of these programs. Funding for Teen PEP and REBEL 2 comes

from the New Jersey Department of Health and Senior Services. Program costs for the NJPTP, Peacemakers, and PLC can be covered by Character Education and/or Title IV (Safe and Drug-Free Schools Act) grants offered by the New Jersey Department of Education. (PCLT, accessed July 3, 2003) Evaluations of these programs have been conducted and are available from PCLT.

Starting in the early 1980s, two **suicide awareness programs with a gatekeeper component** were developed in New Jersey and tried out in selected schools in New Jersey and around the country. *Lifelines* was developed by John Kalafat and Maureen Underwood and the *Adolescent Suicide Awareness Program (ASAP)* was developed by Diane Ryerson. Components of both *ASAP* and *Lifelines* include:

- administrative/organizational consultation to establish the administrators' roles including their endorsement of the program;
- linkages to community gatekeepers to whom high-risk youth could be referred;
- educator training for all school personnel to provide them with knowledge, skills, and resource identification, effective initial response, and referral of high-risk students;
- parent training that included much of the same information included in the educator training; and
- student lessons designed either as a workshop or a set of classes for the health curriculum.

Between 1982 and 1987, ASAP was implemented in 33 of the 46 public high schools in one suburban NJ county. The components of ASAP were developed in collaboration with educators and packaged in detailed manuals that included lesson plans, handouts, overheads, video recommendations, and evaluation forms. One year later this program was evaluated to assess the degree of implementation and institutionalization; all schools had kept at least some aspects of the program. Retention was associated with a number of factors including structural and organizational changes that supported the program, supportive administrative staff, presence of trained program staff and school crisis response teams, and the ability to make changes to the program to adapt it to school settings. Also, youth suicide rates for the county, state, and country were obtained for three five-year periods (before, during, and after the program dissemination). For the five-year period after program dissemination, there was a reduction in suicide rates for the county (7.26 to 4.38), with small and no reductions respectively in the state or country rates for the same time period. (Kalafat and Ryerson, 1999)

In 1991, *Lifelines* student classes were instituted in two suburban NJ schools as part of an evaluation of that comprehensive suicide response program. Classes with students followed education sessions for the faculty, staff, and parents; dissemination of procedures for responding to at-risk students and suicidal behavior; and the establishment of linkages to appropriate community agencies. Classes were taught by the four regular health teachers in the schools, all of whom had taught classes based on a similar program in the past. In addition, a 2.5 hour session was held with one of the curriculum authors to review the material and practice presenting the lessons. The curriculum consisted of three 40- to 45-minute participatory classes on the following topics:

• information about suicide, attitudes toward suicide, and the tunnel thinking that is produced by extreme stress;

- warning signs including an exercise concerning an encounter with a suicidal peer and a roleplay of such an encounter seeking adult help; and
- video that emphasized the consequences of failing to respond to a suicidal peer and review of the school-based resources.

A wallet card with suicide information and local crisis phone numbers was also provided to all students. This program was also evaluated, and there were significant measures of the effect of the curriculum on several knowledge and attitude measures including responses to potential suicide in peers. (Kalafat and Elias, 1994)

These programs have been so well received nationwide that Kalafat and Ryerson are both currently involved in the implementation and evaluation of updated versions of their programs in states other than New Jersey. John Kalafat is not sure of the current status of the curriculum in the New Jersey schools.

During this same time period, Maurice Elias and his colleagues provided **skills training** in the form of an extended social problem-solving curricula to grade school students. In follow-up assessments in middle and high school, they found that participants, as compared to controls, responded more effectively to stressors, were less likely to engage in vandalism or aggression, or use alcohol or tobacco. Subsequent analyses found social problem-solving skills to be a consistent mediator of student responses to stressors. (Elias et al., 1986; 1991) Elias' *Social Decision Making and Problem Solving Program* has been implemented in many schools throughout New Jersey and the U.S. It has been recognized nationally as an effective program as evidenced by the following:

- U.S. Department of Education, National Education Goals Panel, Validation of Social Decision Making and Problem Solving Program as National Mode Program, Goal #7;
- New Jersey State Department of Education, Designation of Social Decision Making and Problem Solving Program as a Statewide Model for Substance Abuse Prevention, Elementary Level, 1988-present; and
- APA Division 27 Distinguished Contribution to the Practice of Community Psychology Award, 1993.

Based on the statute to create the Program for Youth Suicide Prevention Projects, the New Jersey Adolescent Suicide Prevention Project was conceived in 1985 in the University Behavioral HealthCare Department at the University of Medicine and Dentistry of New Jersey. Its "primary mandate was to evaluate the effectiveness of school-based programs for adolescent suicide awareness and make recommendations for statewide programming." Early on, it became apparent that a key component of the project would be **postvention crisis intervention after a suicide**. An additional concern related to helping the schools in the aftermath of homicide or other traumatic loss. Since its inception, project staff have been called in to more than 200 New Jersey schools in the aftermath of a suicide or homicide and have provided consultation to dozens of mental health agencies who have responded to similar tragedies in their own communities. The Project has always encouraged a collaborative relationship between the school systems and mental health, municipal government, clergy, and juvenile probation. Because there are few events in the life of a school that are more painful or potentially disruptive than the suicide of a student, the manual, Managing Sudden Traumatic Loss in the Schools, was written to assist schools in handling the aftermath of a suicide. This was funded by the New Jersey State

Department of Education, the New Jersey State Department of Human Services, and the New Jersey State Department of Health and Senior Services and, as of the Spring of 1996, over 12,500 copies had been distributed to schools and communities nationwide. In 1997, a second edition was printed that updated some of the original material with new research findings and expanded the content to reflect the range of traumatic deaths with which a school may be confronted. The objectives of the manual are:

- "To outline a model for responding to the needs of the general school population after a suicide, homicide, or sudden, accidental death.
- To identify the components of policies and procedures that effectively address the needs of the school community after such a loss.
- To provide strategies that assist the school in facilitating the grief process for faculty and students.
- To discuss cognitive and developmental criteria for children's understanding of death so responses to students can be geared to appropriate developmental levels.
- To outline the process of normal grief and identify special grief reactions to homicide and suicide.
- To provide a structure for identifying students who may be at risk for suicide or homicide.
- To explain the mechanism for development of a broad base of community support for response to sudden, violent death."

In addition, this Project worked with David Shaffer when he was piloting the Columbia TeenScreen Program (described below) in several New Jersey schools. Project staff also train crisis screeners in emergency rooms to keep them up-to-date. Staff are given information to protect the clinician/patient relationship and address liability issues as well as comprehensive mental health training across the life-span. Having a survivor involved in the training is felt to be very valuable. Over the years, funding has been received from the New Jersey State Department of Education, the New Jersey State Department of Human Services, and the New Jersey Department of Health and Senior Services. (Underwood and Dunne-Maxim, 1997)

Also in 1987, the New Jersey School Based Youth Service Program (SBYSP) was initiated to help adolescents finish their education, obtain the skills they would need in the job market or in further education, and graduate from high school healthy and drug free. This multi-dimensional, one-stop shopping program, initiated by the New Jersey State Department of Human Services, provides employment, health, and social services in one location near or in the schools. Core services are aimed at promoting healthy youth development and include mental health and family services, access to preventive health services, substance abuse counseling, employment counseling, pregnancy prevention programs, learning support services, family involvement, referrals to community-based providers, and recreation. In addition, the program is flexible so sites can develop other services to meet their individual needs such as in-school childcare. There is at least one site in each of the 44 school districts. The SBYSP sites are open to all youth 13-19 years of age, but has been extended to younger students in some school districts. Services provided are accessible, non-stigmatizing, and confidential. An evaluation of the program, funded by the Annie E. Casey Foundation, found that students who received SBYSP services had increased educational aspirations; diminished feelings of unhappiness, depression, and suicidal thought; less destructive behavior and feelings of anger; decreased use of tobacco, beer, and

wine; more positive involvement with family and friends; and better use of contraceptives. In addition, violence in the schools decreased as well as the teen pregnancy rate. The *SBYSP* is well integrated in the host schools and is reaching the most at-risk students. Although not primarily developed to impact on adolescent suicide, the evaluation showed that participation in the *SBYSP* was associated, among other things, with reduced incidence of angry and destructive feelings and suicidal thoughts. This was the first statewide initiative of this type in the country and has received national recognition, including a number of awards. In addition, the Program has been replicated in a number of states including Iowa, Kentucky, and California. (Knowlton, 2004)

The *Columbia TeenScreen Program*, a school-based screening program developed by David Shaffer, was pilot-tested in New Jersey in the early 1990s. It is appropriate for middle and high school youth and can be customized to meet local needs. This is how the screening works:

- Parental consent is obtained.
- A brief, self-reported questionnaire is completed by the student.
- If necessary, a self-administered comprehensive mental health evaluation is done and the results are reviewed by a mental health professional.
- For students showing evidence of a mental health problem or suicide risk, face-to-face interviews are held. Parents are informed of test results and treatment options. When indicated, families are referred to local mental health professionals.
- All results are confidential and not made available to non-health professionals such as teachers. (Columbia TeenScreen, accessed March 31, 2003)

The program has been evaluated and the following conclusions were reached:

- A self-completion instrument that relies on a small number of global items can be used to identify teens likely at risk for suicide.
- TeenScreen is efficient in identifying teens with a high-risk profile of mood disorder coupled with features of suicidality or substance/alcohol abuse.
- TeenScreen compares well with the Beck Depression Inventory.
- A large majority of students identified were not known to have significant emotional problems. (Shaffer et al., 1996, accessed March 31, 2003)

A longer term follow-up was done to determine whether students identified by high school screening constitute a sizeable portion of those who remain or become suicidal or depressed beyond high school. The study concluded:

- Administering a simple screening questionnaire to high school students will identify 2/3s of all individuals who will go on to have suicidal symptoms in early adulthood.
- Requiring a screen-positive student to also have a psychiatric diagnosis will greatly reduce the number of individuals needing follow-up. It will identify the majority of those whose later condition will be serious although it will miss half of those having any later symptoms of depression or suicidal tendencies. (Shaffer et al., accessed March 31, 2003)

Although a well received program nationally, it has not been implemented widely in New Jersey schools primarily due to concerns from school administrative staff. In addition, Dr. Shaffer recently reported that less than half the students identified by the screening followed through with treatment referrals (Shaffer, 2003) which has been another concern about the program in New Jersey.

Interventions to Impact the Health Care System:

Not as much is known about aspects of the health care system that might be impacting the adolescent suicide rate in New Jersey.

Mental health benefits are a required part of any licensed insurance company's health care package and all biologic mental health problems must be handled as any other disease. In addition, every hospital in the state has a written affiliation and referral agreement with at least one community mental health agency in their service area for referral, case management, and discharge planning. Any suicide attempt would be referred to this agency.

New Jersey has had an interest in providing **school-based health services** since the 1980s. Among other services, mental health services are provided as part of the New Jersey School Based Youth Services Program described on the previous page. In addition, all SBYSP sites have connections with hospital health services and some are staffed by a full or part-time family nurse practitioner who is overseen by a physician.

Since 2000, one mother, whose son committed suicide in college, has been involved with **medical student training** each year. She helps faculty teach the importance of suicide assessment at the Robert Wood Johnson Medical School to second-year medical students. Students found her lecture very meaningful and helpful in understanding the depth of depression. She is also working on a training model for clinicians.

Other:

The first set of five-year **Adolescent Partnership Grants** was awarded in 1998. Grants are awarded locally for five years and are to address at least one of the following areas but could address two (pregnancy prevention, injury prevention, and/or inactivity/nutrition/obesity) or they could address one of these areas and another need identified in their needs assessment. Several of the first grants, addressed issues that could effect adolescent suicide. One addressed violence and bullying using SANKOFA, a life-skills and violence prevention curriculum that utilizes an active training approach proven to be appropriate and beneficial for multicultural audiences between the ages of 14 and 19 years and their parents. SANKOFA is a word from the Akan culture in Ghana that means reaching back to our past in order to move forward. New proposals were funded to start July 1, 2003. Of the 40 applications received, eight were funded and seven of the eight are studying injury and violence with bullying as one aspect. Three are also studying pregnancy prevention, and three are also studying substance abuse. Both bullying and substance abuse are thought to be related to adolescent suicide. All of the current Partnership grantees have been trained in bullying prevention.

Started in 1999, an **Adolescent Health Institute** is held each year. In 2002, the topic was Gangs and Violence, and in 2003 the topic was Bullying.

Conclusions and Policy Recommendations

New Jersey has implemented a wide variety of policies and programs identified in the professional literature as important in addressing teen suicide. These policies and programs have been at both the State and community level. Taken together, these interventions appear to have had a major role in reducing the teen suicide rate in New Jersey to the lowest level in the country over the past decade. Table 11 provides a chronology of relevant programs and policies implemented in New Jersey.

As can be seen from Table 11, New Jersey has had a number of health promotion and adolescent suicide prevention interventions in place for a long time that may reduce adolescent suicide rates. Laws prohibiting corporal punishment in the schools have been in place for over 130 years. In addition, laws restricting the access of guns to minors have been in place for over 20 years. In 2000, New Jersey passed a childproof handgun bill; however, due to the lack of readily available mechanisms, this has not yet been fully implemented. They have also had a number of non-regulatory interventions statewide for over 20 years. These include psychiatric screening centers in every county with crisis hot lines that are staffed 24 hours a day, seven days a week; the Princeton Center for Leadership Training Program that empowers teens by building problem solving and coping skills; and a suicide awareness curriculum in a large number of schools.

What may not be apparent from Table 11 is the exceptionally high degree of collaboration among the large number of state and local organizations involved in the effort to assist at-risk youth. For example, the New Jersey Departments of Health and Senior Services, Education, and Mental Health Services are working closely with faculty from the University of Medicine and Dentistry of New Jersey and Rutgers University, coordinators of the local traumatic loss coalitions, and parents of teens who completed suicide to address this issue. They have attacked the problem from all fronts simultaneously including regulatory legislation, school-based suicide awareness curricula, skills training, gatekeeper training, peer helper programs, postvention crisis interventions, crisis hotlines, media education, and primary care physician education. Many of their strategies are statewide and address the underlying mental health issues that impact on adolescent suicide attempts. Most importantly, New Jersey's suicide prevention programs are linked with professional mental health resources in the community.

Although there has been some attempt to evaluate several of these strategies, there has been no overall evaluation of New Jersey's policies and programs aimed at reducing teen suicide. The need for additional evaluative information was identified by the participants during the site visit for this study. The challenge to conducting such evaluations would be to disentangle the individual effects of the various approaches implemented in New Jersey over the past 20 years.

Table 11 New Jersey Adolescent Suicide Prevention Activities TIMELINE

Date	Activity
1867	New Jersey was the first state in the U.S. to legally ban corporal punishment in the schools and was one of only two states in 1972. [p. 31]
1979	Princeton Center for Leadership Training began to offer skills building programs in the schools designed to cut down on stress, develop leadership skills, and develop the skills needed to make healthy life decisions. [pp. 31-33]
1979	First gun control law passed that limited access to minors was passed (amended in 1980 and 2000). [p. 24]
1982-87	Adolescent Suicide Awareness Program started in one county. [p. 33]
1985	Program for Youth Suicide Prevention Projects was established by statute to provide instruction in the schools and community on adolescent suicide and prevention. Three projects are funded each year. [pp. 24-25]
1985	New Jersey Adolescent Suicide Prevention Project started in the University Behavioral HealthCare Department at the University of Medicine and Dentistry of New Jersey. [pp. 34-35]
1987	New Jersey State Department of Health and CDC sponsored a national meeting in New Jersey to draft a set of recommendations for a Community Plan for the Prevention and Containment of Suicide Clusters. [p. 27]
1987	NJ School Based Youth Services Program was established to provide employment, health, and social services to youths at risk in or near at least one school on each county. [pp. 35-36]
1989	Twenty-four hour per day, seven days a week Psychiatric Screening Centers were mandated by statute for each county and have been in some since 1979. Although they are focused on adults, some children are seen there for screening or emergency care. [p. 25]
1989	Crisis hot lines were mandated in every county as part of the Psychiatric Screening Centers. [p. 27]
1989	Covenant House of New Jersey started providing services to homeless youth. [pp. 27-28]
1980-90s	Elias started an extended social problem-solving curriculum in grade schools. [p. 34]
1990	Psychiatric Screener Certification Training stared by UMDNJ. These individuals are located in a hospital in every county. [p. 28]

Date	Activity
1991	Lifelines, a suicide awareness program with a gatekeeper component, was started in two suburban NJ schools. [pp. 33-34]
early 1990s	Columbia TeenScreen, a school-based screening program to identify youths at risk for suicide was pre-tested in several NJ schools. [pp. 36-37]
early 1990s	Managing Sudden Traumatic Loss in the Schools was published and by 1996 had been distributed to over 12,500 schools nationwide. [pp. 34-35]
1995	Northeast Injury Prevention Network (NIPN) was started with New Jersey as a member. [pp. 21-22]
1995	Mercer County Traumatic Loss Coalition started. [pp. 28-29]
1997	Covenant House of New Jersey opened a permanent shelter in Atlantic City to serve homeless youth. [p. 27]
1997	An updated and expanded edition of <i>Managing Sudden Traumatic Loss in the Schools</i> was published. [pp. 34-35]
1998	Postvention services for families bereaved by suicide was started and a local chapter of the American Foundation for Suicide Prevention was formed. [p. 29]
1998	Adolescent Partnership Grants were first awarded and each time at least several address issues that could affect adolescent suicide. [p. 37]
1999	Traumatic Loss Coalitions began to be formed in all counties. [pp. 29-30]
1999-2002	Mercer County Family Support Services targeted mental health services to youths at risk in Mercer County. [p. 30]
2000	Covenant House of New Jersey opened a permanent shelter in Newark to serve homeless youth. [pp. 27-28]
2000	Childproof handgun bill passed and gun-locks handed out in each county until childproof handguns become available. [pp. 25-26]
2000	NIPN held a multi-state meeting to begin the development of a suicide prevention plan. The group from NJ who went to this meeting were the initial members of the Suicide Prevention Team in NJ and a Suicide Prevention State Plan was drafted for NJ. [p. 22]
2001	Project Phoenix and the Families' GOALS Projects were started in response to the activities of 9/11 to provide support to families who lost someone in the event. [pp. 30-31]
2001	SUICIDE poster was distributed to over 2,000 adolescent providers statewide. [p. 31]
2002	Topic for the statewide Adolescent Health Institute was Gangs and Violence. [p. 37]

Date	Activity
2003	Topic for the statewide Adolescent Health Institute was Bullying. [p. 37]
2003	NJ received a grant from CDC to join an effort to create a national violent death reporting system. [p. 23]
2004	Youth Suicide Prevention and Reporting Program was established by law that required reporting of suicide attempts, provision of suitable interventions, and education of families at risk about the resources available to them. This bill also established the NJ Youth Suicide Prevention Advisory Council. [pp. 26-27]

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